

December 4, 2009

2010 Draft 303(d) List of Impaired Waters
Consolidated Assessment and Listing Methodology
Janet Pittman
Rules Development Branch
Office of Legal Counsel, MC 65-46
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

RECEIVED

JAN 25 2010

DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

**Re: Nutrient and impairment concerns for Shipshewana Lake
LaGrange County, Indiana**

Dear Ms. Janet Pittman:

We wish to inform you of Water Quality Standards (WQS) degradation and what we believe is the continuing eutrophication of Shipshewana Lake, located in the northeast corner of LaGrange County, Indiana.

It is the wish of the Shipshewana Community Lake Improvement Association (SCLIA) to request IDEM for assistance in addressing the issues regarding the poor quality of these inlet waters. The contamination and nutrients we are monitoring that are negatively impacting the lake are coming from areas surrounding the lake and will be referred to as the Shipshewana Lake "watershed". We are unable to monitor the entire watershed though. So we have narrowed our monitoring to several sites sampled in past studies and also as recommended by LaGrange County Soil and Water Conservation District.

We understand IDEM has developed a document described as the 303(d) list that includes and identifies impaired bodies of water in the state of Indiana, but that Shipshewana Lake is not included on the 2010 listing.

Due in part to the analytical results of samples currently being drawn throughout the watershed and the lake, also due to physical observations

and concerns of lake residents and SCLIA members; we are requesting a review of the information we have included herein.

The purpose of this review would be for the possible addition to the 2010 303(d) list. Although listing of the Shipshewana Lake to the proposed 303(d) list is to us just an isolated step. Our purpose is to obtain your assistance in reducing pollutants which are causing the current impairment of Shipshewana Lake. We are not looking for listing of the lake to be an end result, rather, the point of stimulus for investigations into and resolution of pollution impacts as they pertain to Shipshewana Lake, both now and in the future.

Further, we are concerned and aware that the discharge of Shipshewana Lake is likely impairing the Page Ditch, the Pigeon River, and the St. Joseph River tributary to the Lake Michigan-Great Lakes Basin, due to the nutrients in the lake outlet (site 4 on analytical results sheet and site map).

Shipshewana Lake is a very important lake to the surrounding areas and communities. In 2007, the IDNR installed a new boat ramp on the lake's southwest side. This is the second launch ramp constructed on the lake for public access. The original boat launch located on the southeast side is still in use. People continually use the lake year-round for fishing and recreation. Annual usage, in our opinion, has been reduced because of deteriorating water quality issues: clarity, excessive weed growth, inability to navigate for fishing and recreation in many areas of the lake. Basically the lake is quite aesthetically unappealing and, during summer months, has a strong, unpleasant odor most of the time.

The 1998 dredging project did not have sufficient funding to remove the recommended amount of nutrient laden sediment. The project funding allowed for removal of only one-third of the recommended total volume, leaving two-thirds of the sediment in place. Sediment analysis reports, given to the SCLIA by F.X. Browne Engineering, Inc. revealed 27 mg/kg of solid phosphorus in the sediment.

Currently the water quality and aesthetics are very similar to the time of its 1986 listing by IDEM of the lake being Class 3; advanced eutrophic body of water as is described to the SCLIA in the 1989 draft feasibility study (a final study may not have been done). It was reported further in the study

that the lake was classified by the Army Corps of Engineers as being in the Class IV management group, and conducive for potential of restoration through dredging.

Many agencies have been associated with Shipshewana Lake during this and other projects as you may already know, and have contributed to the understanding we have of our situation.

Historical projects in the watershed have influenced the lake. Some of the project work may be attributable to the nutrients now being measured by the SCLIA.

We bring to your attention the 1965 diversion of Cotton Lake into Shipshewana Lake. This diversion of flow is currently being monitored and the analytical results reveal characteristics showing water quality impairment from that part of the watershed. Although the 1998-1999 project for the constructed wetlands, (just upstream from site 2 on the enclosed sampling site map), was to control and contain pollutants from that part of the watershed, it now seems apparent by our reports that the constructed wetlands and sedimentation basin are not adequate to protect pollutant loads from entering into Shipshewana Lake.

Best Management Practices (BMP's) employed by surrounding farmlands and agricultural areas may not be utilized to their fullest potential. Our limited monitoring of the LaGrange County drainage ditches discharging into the lake are contaminated with nutrients that contribute to water quality degradation and impairments. The farming techniques of this area due to the Amish culture that is predominate and expanding throughout the watershed may also be a contributing factor in the recent deterioration. Additionally, the modes of transportation that utilize horse-drawn vehicles which deposit manure throughout the entire county could cause an elevation of nutrient runoff.

An additional loading source of storm water and impervious surface runoff is being received from 87 acres within the Town of Shipshewana. This includes the well-known areas of the Shipshewana Auction Barn and Flea Market, both identified as nutrient contributors in previous studies.

We have measured levels of high Total Phosphorus, Total Suspended Solids, Escherichia Coli Bacteria, and Turbidity. Algal blooms, excessive invasive weed growth, floating mats of scum, putrescent vegetable material, objectionable odors, and unsightly conditions prevail during the recreational months of May through October. All these conditions vary in severity throughout the watershed, and at the lake itself. A more thorough

verbal description may assist to identify specific areas not included on the enclosed analytical test result sheet, and sampling site map. So please do not hesitate to call if you would like to learn more or discuss this.

The lake water during most months is a pea-soup green. Boating and fishing have both been restricted recently, and the weed growth has increased. Water visibility has decreased over the last few years.

After the 1998 – 1999 sediment dredging project we were advised that in three to five years we would notice a significant increase in water quality. This has obviously not occurred, and in fact the opposite seems to be true, that the lake water is as bad as or worse than before the dredging.

To conclude, we feel that Shipshewana Lake is being negatively impacted by several sources of nutrients and solids. These include the following; Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Nephelometric Turbidity Units (NTU), Nitrates, Total Phosphorus, and E-Coli.

We are also monitoring Temperature, Potential Hydrogen (PH), and Dissolved Oxygen (DO).

This negative impact of additional nutrient and bacterial loadings from the surrounding area (watershed) has increased over the years since 1986, as are evidenced by recent data. These impacts are related to many elements including; the large influx of tourism, the large population increase of the Amish culture, increases in cluster housing around the Lake, not using BMP's in the watershed, and failing or inadequate pollution control devices.

The effects of the higher pollutant loads are continuing to impact the lake to the point that we are unable to fully use our natural resource.

You may also be aware that we are currently scheduled for a sewer project that will provide sewage collection and disposal to the Town of Shipshewana by the end of 2010. We are apprehensive this significant investment in water quality may not be sufficient to restore the quality of Shipshewana Lake alone. Therefore we are requesting a thorough review of these issues and of the current situation so that IDEM will identify pollution sources for removal or reduction. We feel that follow-through on our previous projects have been lacking and this is evident when reviewing recommendations of some of these past projects such as the dredging. The dredging project had included recommendations for example that recommended future projects in areas of the watershed that were never

completed. So we are requesting oversight management for any additional projects in the future.

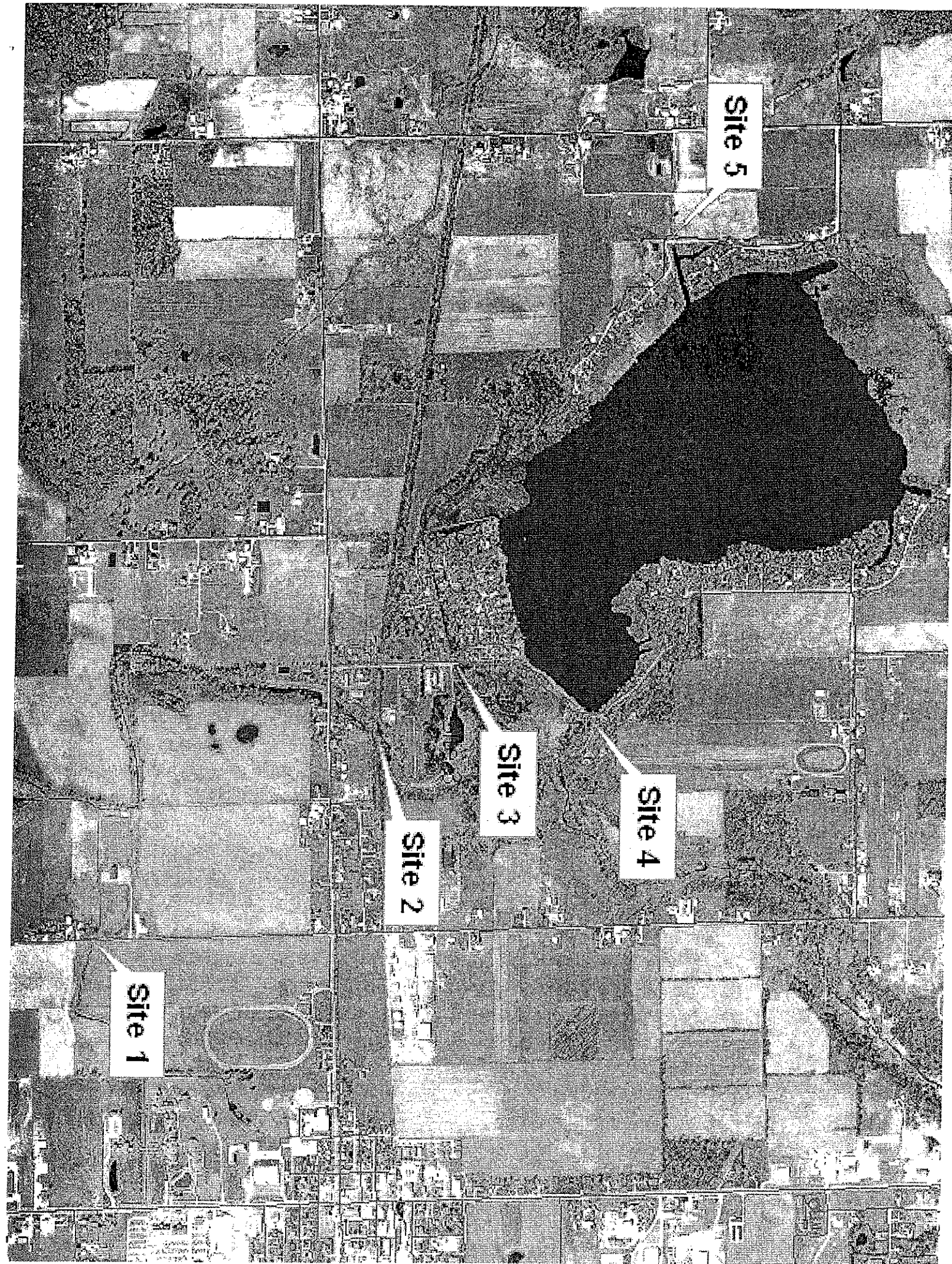
We are not only requesting a review of these issues, data, and requests for the possible inclusion of the lake to be put back on the 303(d) list, but also for assistance in addressing these issues that really are outside of our authority and abilities, but are within the IDEM's authorities and responsibilities to resolve.

Thank you for your time.

Most sincerely,

Nicholas R. Davis 1-17-10
3035 N. 982 W.
Shipshewana IN. 46565

Enc.



Site 5

Site 4

Site 3

Site 2

Site 1

Shipshewana Lake

Date	Location	pH	Temp °C	DO mg/l	TDS mg/l	Turb NTU	TSS mg/l	Nitrates mg/l	TP mg/l	E.coli per 100 ml
7/20/2009	Site 1	8.30	19.7	4.52	486	9	15	2.6	0.38	400
7/20/2009	Site 2	7.78	18.6	4.98	430	10	13	2.8	0.51	700
7/20/2009	Site 3	8.23	22.3	6.14	428	5	4	1.9	0.45	100
7/20/2009	Site 4	9.41	22.9	9.16	220	84	85	0.4	0.60	0
7/20/2009	Site 5	7.93	18.5	4.81	447	6	8	8.4	0.33	1000
8/3/2009	Site 1	8.30	21.7	5.09	460	3	0	2.7	0.41	250
8/3/2009	Site 2	8.42	21.6	5.05	416	11	16	2.2	0.52	600
8/3/2009	Site 3	8.52	22.6	5.55	416	12	29	1.9	0.73	0
8/3/2009	Site 4	9.93	24.4	5.68	211	64	70	0.3	0.53	200
8/3/2009	Site 5	8.27	24.8	3.78	339	36	41	1.6	0.66	1200
9/1/2009	Site 1	8.14	20.5	5.54	429	8	16	4.9	0.36	100
9/1/2009	Site 2	8.38	19.3	5.27	340	13	21	1.5	0.85	300
9/1/2009	Site 3	8.60	20.1	5.59	339	13	15	1.4	0.97	200
9/1/2009	Site 4	9.75	21.9	7.60	231	38	31	0.5	0.87	1000
9/1/2009	Site 5	9.53	23.4	6.38	232	923	1600	0.3	14.6	0
10/16/2009	Site 1	6.82	10.2	10.11	482	5	5	3.0	0.35	0
10/16/2009	Site 2	7.58	9.0	9.13	399	8	11	1.5	1.04	0
10/16/2009	Site 3	7.66	9.1	10.60	394	10	12	1.8	0.86	0
10/16/2009	Site 4	8.69	9.7	11.53	255	25	29	0.3	0.56	0
10/16/2009	Site 5	8.20	10.3	9.14	425	3	5	10.0	0.29	0
11/12/2009	Site 1	8.64	11.8	11.44	499	4	5	3.8	0.22	0
11/12/2009	Site 2	8.49	10.6	10.20	424	6	10	2.7	1.19	100
11/12/2009	Site 3	8.40	9.4	9.92	424	3	6	3.1	1.06	0
11/12/2009	Site 4	8.84	9.2	12.52	289	15	19	0.4	0.32	0
11/12/2009	Site 5	8.45	10.6	9.79	428	3	10	10.0	0.39	0

DO - Dissolved Oxygen
TDS - Total Dissolved Solids
Turb - Turbidity
TSS - Total Dissolved Solids
TP - Total Phosphorus